

REMARKS

The Examiner is thanked for the thorough examination of the application. It is believed that no new matter has been added to the application by this Amendment.

Status Of The Claims

Claims 1-24 are pending in the application. Claims 1, 10 and 15 are independent. Allowable claim 10 has been amended to stand as an independent claim by incorporating the contents of claim 1. Support for the amendments to claim 15 can be found at, e.g., paragraph 0060 at page 12 of the specification. The Examiner has acknowledged the allowability of claims 10-13. Claims 21 and 22 find support in Figures 5 and 7F. Claims 23 and 24 find support in Figures 4, 5 and 7F.

Objection To The Drawings

The Examiner objects to the drawings. The Examiner asserts that the limitation "the seal pattern having a same thickness as the patterned seal" of claim 15 must be depicted in the drawing figures.

37 C.F.R. 1.83 states: "The drawing in a nonprovisional application must show every feature of the invention specified in the claims." *MPEP* 608.02 sets forth: "Any structural detail that is of sufficient importance to be described should be shown in the drawing. (*Ex parte Good*, 1911 C.D. 43, 164 O.G. 739 (Comm'r Pat. 1911))"

Claim 15 has been amended to removed the objectionable limitation and to recite “the patterned spacers having a same thickness as the patterned seal.” This limitation is clearly shown by the distance d1 in both the patterned spacers 238 and the patterned seal 242 in Figure 5 of the present invention (see also Figure 7F).

As a result, all the features of amended claim 15 are clearly depicted in the drawing figures, and there is no need to amend the drawings. The Examiner is accordingly respectfully requested to withdraw the objection to the drawings.

Rejection Under 35 U.S.C. §112, First Paragraph

Claims 15-20 are rejected under 35 U.S.C. §112, first paragraph as failing to satisfy the enablement requirement. Applicants traverse.

At page 3 of the Office Action, the Examiner asserts that the specification is not enabling for disclosing a method of manufacturing a liquid crystal display where the seal pattern has the same thickness as the patterned seal. However, claim 15 has been amended to recite “the patterned spacers having a same thickness as the patterned seal.” This limitation is clearly shown by the distance d1 in both the patterned spacers 238 and the patterned seal 242 in Figure 5 of the present invention (see also Figure 7F). As a result, the present invention embodied in claim 15 can be practiced by one of ordinary skill without undue experimentation.

“The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.” *United States v. Telectronics, Inc.*, 8 USPQ2d 1217 (Fed. Cir. 1988); *In re Stephens*, 188 USPQ 659 (CCPA 1976).

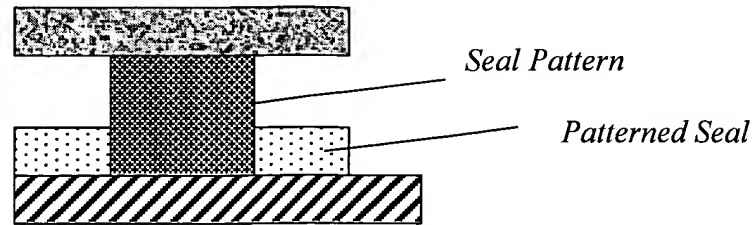
This rejection is overcome and withdrawal thereof is respectfully requested.

Rejection Under 35 U.S.C. §102(b) Over Ishikawa

Claims 1-9 and 14 are rejected under 35 U.S.C. §102(b) as being anticipated by Ishikawa (U.S. Patent 6,414,733). Applicants traverse.

The Present Invention And Its Advantages

The present invention pertains to a novel LCD and manufacturing method thereof in which a patterned seal is formed in a seal pattern region. A seal pattern is surrounded by the patterned seal in the seal pattern region. As is shown in Figure 4 of the present invention, a display region F is surrounded by a seal pattern set 160 having a seal pattern 146 that is bordered on both sides by a patterned seal 144. The seal pattern surrounded by the patterned seal is also shown in Figure 5, which is partially depicted below.



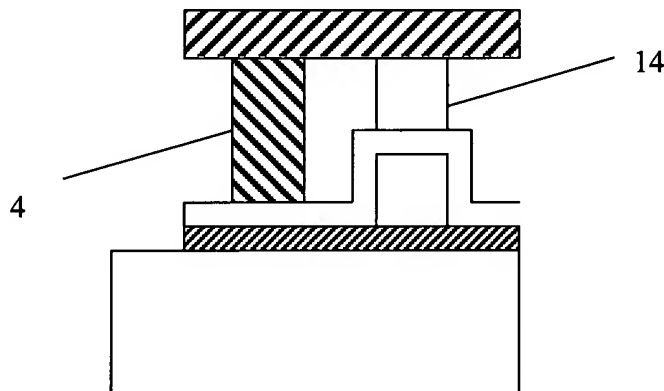
The present invention has many embodiments and a typical embodiment can be found in claim 1:

1. A liquid crystal display device, comprising:
 - a first substrate and a second substrate spaced apart from each other, and a display region, a non-display region and a seal pattern region are defined on the substrates;
 - a black matrix over an inner surface of the second substrate;
 - a color filter layer over the black matrix in the display region and the seal pattern region;
 - a plurality of patterned spacers over the color filter layer in the display region;
 - a patterned seal over the color filter layer in the seal pattern region;
 - a seal pattern surrounded by the patterned seal in the seal pattern region; and
 - a liquid crystal layer disposed inside the patterned seal.

Distinctions Of The Invention Over Ishikawa

Ishikawa pertains to a color liquid crystal display with a shielding member disposed between a sealing member and a display zone to prevent the liquid crystal layer from being contaminated (see Abstract). Ishikawa fails to disclose a seal pattern surrounded by a patterned seal.

At page 4 of the Office Action, the Examiner turns to Figure 5 of Ishikawa and asserts that it discloses “a patterned seal 14” and “a seal pattern 4 surrounding the patterned seal.” The relevant part of Figure 5 is depicted below.



Ishikawa at column 8, lines 18-22 states that “a sealing member 4 and a shielding member 14 which is arranged inside of the sealing member 4 and a liquid crystal layer 5 is formed in the gap portion between both substrates.” As can be readily observed, the sealing member 4 of Ishikawa does not surround the shielding member, and the “inside the sealing member” clearly means inside the cell perimeter defined by the sealing member 4.

Also, Ishikawa uses the non-surrounded nature of sealing member 4 and shielding member 14 such that a gap is used trap air bubbles.

Ishikawa at column 15, lines 5-10 states:

If the liquid crystal material is made to flow into between the shielding member 14 and the sealing member 4, this alleviates the suffering from the disadvantage that air bubbles present between the shielding member 14 and the sealing member 4 intermingle with the liquid crystal layer 5 in the subsequent use or the like.

In comparison, the present invention forms the seal pattern in a hole in the patterned seal such that the seal pattern and patterned seal contact each other to form a seal pattern set (see claims 23 and 24). Thus, the present invention may have no gap between sealing members.

As a result, Ishikawa clearly fails to anticipate independent claims 1 and 15 of the present invention, which set forth that the seal pattern, is surrounded by the patterned seal. Claims depending on claims 1 and 15 are patentable for at least the above reasons.

This rejection is overcome and withdrawal thereof is respectfully requested.

Information Disclosure Statement

The Examiner is thanked for considering the Information Disclosure Statement filed August 12, 2004 and for making the initialed PTO-1449 form of record in the application in the Office Action mailed December 14, 2005.

Prior Art

The prior art cited but not utilized by the Examiner indicates the status of the conventional art that the invention supersedes. Additional remarks are accordingly not necessary.

Foreign Priority

The Examiner has acknowledged foreign priority and indicated that a certified copy of the priority document has been received in the Office Action mailed December 14, 2005.

Conclusion

The Examiner's objection and rejections have been overcome, mooted or obviated. No issues remain. The Examiner is respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

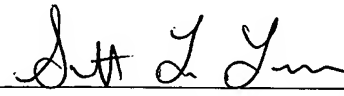
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By 
Esther H. Chong #41,458
Registration No.: 40,953
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Rd
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant

EHC/REG:kdm